

**MULTI-MODE METHOD AND APPARATUS FOR PERFORMING DIGITAL
MODULATION AND DEMODULATION**

ABSTRACT OF THE DISCLOSURE

A method of multi-mode communications includes receiving signals from multiple sources at a plurality of sample buffers, referencing the plurality of sample buffers for a first source at one time and referencing the plurality of sample buffers for a second source at another time, and communicating data from the referenced plurality of sample buffers to a processing unit. The processing unit concurrently receives inputs from buffers in the plurality of sample buffers and outputs to other buffers in the plurality of sample buffers.